OFFICE OF POLICY AND LEGAL ANALYSIS

Date: March 9, 2011

To: Joint Standing Committee on Utilities and Energy

From: Jean Guzzetti, Legislative Analyst

Re: LD 425 An Act To Stimulate Demand for Renewable Resources

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BILL SUMMARY

Current law establishes as a policy of the State the encouragement of the generation of electricity from renewable and efficient resources by requiring that each competitive electricity provider in this State demonstrate that no less than 30% of its portfolio of supply sources for retail electricity sales in this State is accounted for by eligible resources. This bill implements that policy by stimulating demand for electricity from generators fueled by municipal solid waste in conjunction with recycling.

This bill amends the law in the following ways.

1. It amends the definition of "renewable capacity resource" to add waste energy resources.

2. It defines "waste energy resource" as a source of electrical generation that is fueled by municipal solid waste in conjunction with recycling and whose total power capacity does not exceed 35 megawatts. In addition, the waste energy resource would have to meet Maine's air emissions standards for resource recovery facilities and licensing standards for solid waste facilities and ensure that residuals from the waste energy resource are disposed of at a landfill meeting Maine's licensing standards.

3. It establishes a 3.5% portfolio requirement for electricity from waste energy resources.

4. It allows competitive electricity providers to meet the portfolio requirements for waste energy resources through the use of renewable energy credits or an alternative compliance payment to be set by the Public Utilities Commission.

NOTES

New Renewable Capacity Resource

- Bill as proposed specifies that WTE can not be used to meet the 30% portfolio requirement. What about the "New" renewable portfolio requirement, if new plants built or existing plants are eligible.

Portfolio Requirement

- The current requirement is 3.5%, which according to PUC testimony, is below the capacity of the 4 WTE plants in Maine, which may result in a market that is not competitive, which may allow the plants to set their price.

Timing Considerations

- OEIS completed a report regarding including waste-to-energy. According to a letter received from OEIS, the draft is complete and is currently being reviewed by the Governor's office.
- Other RPS related bills
  - LD 660, An Act to Extend the RPS - Today's public hearing.
  - LD 956, An Act to Improve the RPS - Public hearing scheduled for March 21st

INFORMATION REQUESTS

- Testimony from OPA

FISCAL IMPACT

- Preliminary fiscal note indicate the passage of the bill would result in minor costs which can be absorbed by the PUC within existing budgeted resources.

TESTIMONY SUMMARY (Public hearing: *3/02/11*)

Sponsor:

Senator Richard Rosen

In Support:

- Without waste to energy, landfills will get larger, reduces landfill space by 90%
- Important to conserve landfill space
- Waste to energy is preferred waste management strategy over landfilling
- Current RPS policy is in conflict with state's solid waste hierarchy
- Largest uncertainty we face is the manner in which energy policy will impact value of our electrical output
- WTE offers high skill/high wage jobs
- Secondary jobs – through contract services from a number of ME companies
- Proceeds from the sale of RECS will reduce cost of solid waste disposal and property tax
- REC's for WTE deserve their own class – both the provision of electrical service and municipal solid waste disposal are

In Opposition:

- MSW is not a renewable resource
- 40% is generated locally, but 60% is out of state waste
- 23,000 tons generates 35 MW of electricity
- Pollutes the air and ends up with ash that has to be put in a landfill, more toxic
- Collection she got of ash samples showed unacceptable levels of lead and dioxins
- 312,000 tons of out of state waste being trucked on our roads
- Bill interferes with the hierarchy of recycling
- No clear threshold for recycling in the bill
- If the tipping fee goes up, people will be recycling more
- Bill will have impact of higher rates on CMP customers

both essential public services
- In Clinton, cost of MSW is second highest to the cost of education
- State mandate that municipalities must receive and dispose of MSW, so if tipping fees increase property taxes will go up
- Will stabilize tipping fees
- With passage opportunity to help retain MSW as a viable renewable resource
- WTE is one of the only types of electric generation which solves a societal problem, the safe processing and disposal of solid waste while helping to offset need for foreign fossil fuels
- Reduces emission of CO2
- WTE reduces the emission of methane from landfills
- USEPA has stated that power generated by WTE has less environmental impact than any other electric industry
- MMWAC's mercury emissions have decreased from 500/yr to less than 1
- There are no visible emissions, the white smoke is water vapor from pollution control system
- Insert ash is safely landfilled
- Very low impacts on air and water
- Would help level the playing field so that landfills do not have an unfair advantage over WTE
- There is currently no viable market for RECs from WTE, whereas landfill gas has REC1 status
- No desire to disrupt the Class I REC market, only to create a level playing field
- We are not advocating to be inserted in Class I, rather create a new Class III for WTE
- Frustrating that there are not uniform standards between the states for Class I
- None of the other states include WTE in Class I, and that was a precedent we didn't want to set
- WTE has its own class (Class II) in MA, MA represents some of the more strict standards
- Other New England states have dedicated a single class to one fuel.
- Bill may ask utilities to sign long-term contracts with WTE plants
- MERC in Biddeford received $485 million from CMP customers, CMP was paying 17 cents per kWh in 2007, when CMP bought out the contract (wholesale market is 5 cents/kWh)
- CMP paid over $19 million to MMWAC through 2010, CMP paid 10 cents/kWh in 2010
- If these plants can't operate without a subsidy, then they need to find a subsidy somewhere else than CMP customers
- Ratepayer subsidy for WTE is inconsistent for Maine's solid waste management hierarchy
- WTE should not be considered as a renewable resource
- This bill will provide a significant ratepayer subsidy with little or no ratepayer benefit
- Putting toxic materials in landfills
- Would not reduce tipping fees
- Maine is already producing enough electricity for Mainer's consumption

• Target number in MA is 3.5 or 3.6% • Would look at current production of facilities in ME and work w/ Legislature to come up with an appropriate number	

Neither for nor against:

- Committee may want to consider whether these four WTE facilities need ratepayer support
- Each of these facilities may have ability to set any price for their RECs up to the Alternative Compliance Payment (ACP) price cap.
- OEIS developed report on efficacy of adding WTE to RECs
- This is an economic, energy, and environmental issue
- If we are to change this policy and create a new class, we want to make sure that whatever class is created, don't want to incentivize the importation and production of waste into ME.
- Make sure that any new policy that is made, there is a hierarchy of solid waste policy.
- Make sure that the electricity that is generated is reasonably priced and that the market is structured to lower the costs of electricity for the citizens of ME.
- You should not lightly choose statutory favorites, winners and losers.
- The bill summary states that the policy would stimulate demand.
- Bill is not clear what the costs to ratepayers would be.
- More legislation on the way for committee to look at RPS in a comprehensive manner
- There are elements of mandate within this bill.
- This may be a good time to look at the RPS more holistically and see if we can better align it with state policies.

TESTIMONY SIGN IN SHEET

Joint Standing Committee on Energy, Utilities and Technology

LD#_425 An Act To Stimulate Demand for Renewable Resources__

Date:___3-2-11_____

Name	Town/Affiliation	Proponent	Opponent	Neither
Sen. Thibodeau for Sen. Rosen	Sponsor	Xh		
Kevin Roche	EcoMaine	Xh		
Greg Lounder	Municipal Review Committee (formed by PERC)	Xh		
Phil McCarthy	Municipal Review Committee, Clinton	Xh		
Joseph Kazar	Mid Maine Waste Action Corp	Xh		
Jim Secunde	Maine Energy Recovery Co.	Xh		
George Wood	New Chester, MA (Maine Waste to Energy Working Group)	Xh		
Joanne Twomey	Biddeford, Activist		Xh	
David Allen	Central Maine Power		Xh	
Dylan Voorhees	Natural Resources Council Maine		Xh	
Hillary Lister	Activist		X	
Paul McCarrier	Activist		X	
Jarody	Augusta		X	
Paulina Collins	Public Utilities Commission			Xh
John Kerry	Office of Energy Independence & Security			Xh
Chris O'Neil	Friends of Maine Mountains			X
Todd Griset	Industrial Energy Consumer Groups			X

COMPARISON OF EMISSION RELEASES USA –VS- EU
for **Full Board Meeting March 17, 2011**

Table 1: Stack Test Data

	Regulation			Actual		
US EPA Methods	Limit: EU (11%O_2)	EU converted (7%O_2)	Limit: Maine (7%O_2)	ecomaine A-Blr (7%O_2)	ecomaine B-Blr (7%O_2)	Anonymous EfW (7%O_2)
Dioxin/Furan*	0.1 ng/mg3	0.13 ng/dscm	25 ng/dscm	0.5 ng/dscm	1.2 ng/dscm	n/a
Particulate Matter	10 mg/m3	8.6 mg/dscm	24 mg/dscm	3.5 mg/dscm	3.8 mg/dscm	3.4 mg/dscm
Cadmium**	50.0 ug/m3	65.22 ug/dscm	35 ug/dscm	6 ug/dscm	6 ug/dscm	n/a
Lead***	500 ug/m3	652.22 ug/dscm	400 ug/dscm	40 ug/dscm	60 ug/dscm	n/a
Mercury	50 ug/m3	65.2 ug/dscm	28 ug/dscm	2 ug/dscm	6 ug/dscm	2.75 ug/dscm
Hydrogen Chloride	10 mg/m3	13.04 ppm	29 ppm	11.6 ppm	3.7 ppm	1.0 ppm
Ammonia	10 mg/m3	18.5 ppm	10 ppm	1.5 ppm	2.7 ppm	n/a

Table 2: Comparison Mercury (lbs/year)

Maine State Limit: Mercury	2010 ecomaine	2010 ecomaine	2010 ecomaine	EU anonymous
(for both Blrs)	A-Boiler	B-Boiler	combined Boilers	(One Unit)
25 lbs of mercury per year (or 90% removal efficiency	2.13 lbs/yr & 96% reduction	5.6 lbs/yr & 92.3% reduction	7.8 lbs/yr & 94% reduction	4.28 lbs/year

* D/F: differences exist – Difficult to compare as EU measures TE (toxic equivalents) using most toxic form of dioxin (2,3,7,8-TCDD) as a reference to relate the toxicity of the sample. The US EPA method measures all the dioxin compounds cumulatively (ie: 1,2,3,7,8-PeCDD; 1,2,3,6, 7,8-HxCDD; 1,2,3,4,6,7,8-HpCDD, etc) resulting in a difference by a factor of 100.
**Cd: diffs exists - EU combines "Cadmium & Thallium" but Cd is larger fraction of the combination

***Pb: diffs exist – EU includes several heavy metals in category (Sb, As, Pb, Cr, Co, Mn, Ni, V), although Pb is largest fraction –a direct comparison is not absolutely accurate because lead is not-alone in the EU comparison

Table 3: CEMS Data

	Regulation			Actual		
	Limit: EU	EU Con-verted to ME	Limit: ME	ecomaine	ecomaine	EU Anonymous
Daily Average Values	mg/m3 (@11%O_2)	ppm (@7%O_2)	ppm (@7%O_2)	(A-Blr 2010 avg)	(B-Blr 2010 avg)	(1-Blr EfW)
Carbon Monoxide (CO)	50 mg/m3	56.04 ppm	100 ppm	28 ppm	30 ppm	3.4 ppm
Nitrogen Oxide (NOx)	200 mg/m3	136.43 ppm	180 ppm	135 ppm	138 ppm	129 ppm
Sulfur Dioxide (SO2)	50 mg/m3	24.52 ppm	29 ppm	4.2 ppm	5.3 ppm	7.9 ppm

Environmental Manager
AKH 15 March 2011

Narrative 3-17-11

COMPARISON OF EMISSION RELEASES USA –VS- EU

To first compare emissions from EfW facility in Europe to ecomaine's WTE, a proper comparison needed to be made and the starting point was the "capacity" or amount of municipal solid waste (msw) disposed per day and regulations of emission limits triggered.

Capacity:

- **ecomaine's WTE** is defined "large municipal waste combustor" (>250 tpd msw)
- **European EfW** "incineration plant w/ thermal treatment of waste" (>144 tpd msw)

Regulations:

- **Maine DEP Ch 121** rules apply "emissions limitations and emission testing of resource recovery facilities.
- **USEPA** new source performance standards for WTEs in the Federal citation 40 CFR 60

- **European incinerator** emission limits are set by the European Parliament and Council Regulations located in Annex V of Rule 2000/76/EC

Conversions:

The emissions data in Annex V required a **conversion** as differences existed for percent oxygen (11, 7, %O2) and for units of measurement (mg/m3, ppm). I conferred with a European colleague who recommended conversions noted in the Handout and who offered anonymous data from EfW facility in Switzerland for comparison of our actual data.

HANDOUT

Table 1 highlights the Regulatory limits specifically Column 1 lists the parameters tested during our annual Stack Test. Column 2 lists EU limits w/ their %O2 and units, which are converted to our %O2 and our units cited in Column 3. A direct comparison can then be drawn from Column 3 (EfW) to Maine WTE limits in Column 4. The other part to the right in **Table 1** shows a comparison of actual data for both of ecomaine's boilers and the anonymous source in Europe.

A couple of distinctions should be noted.

D/F For example, it is somewhat difficult to compare the Dioxin/Furan data because in Europe they measure toxic equivalents (TE) which compare the most toxic form of dioxin (2,3,7,8-TCDD) as a reference to determine the toxicity of the sample, while our EPA methodology measures all the isomers cumulatively. Which means the isomers which share a basic molecular formula like: 1,2,3,7,8-PeCDD; 1,2,3,6, 7,8-HxCDD; 1,2,3,4,6,7,8-HpCDD, etc are added together, resulting in a large value and creating a difference by a factor of 100 between our emission limits. Yet, while our Maine limit is high (25 ng/dscm) our actual recent stack test results are not too far off from the EU limit (0.13 ng/dscm) our results were (0.5 ng/dscm & 1.2 ng/dscm).

Cd another point to acknowledge when comparing US to EU data, is for Cadmium. The EU rule combines Cadmium and Thallium; however, Cd is the largest fraction of the combination and a direct comparison is possible – but a difference exist. In this comparison the EU number is high when compared to our value as it is for both Cd and Tl.

Pb a final point of difference is for lead. The EU data include gaseous and vapor forms of the relevant heavy metal emissions as well as their compounds and joins several heavy metals in this category Sb, As, Pb, Cr, Co, Mn, Ni, V. Although lead is one of the larger fractions of this mix, a direct comparison is not absolutely accurate because lead is not-alone in the comparison. The EU values listed for Pb are higher (652 ug/dscm) than our limit (400 ug/dscm).

Table 2, offers a comparison of mercury (Hg) data in the units (lbs/yr) based on Maine Statute, Section 585B, which requires a limit 25 lbs/yr or 90% removal efficiency of mercury release. Based on the anonymous EfW mercury data (2.75 ug/dscm) and with some assumptions for stack test conditions, I postulated the Hg pounds per year value for EfW of 4.28 lbs/year. Table 2 also has the break down of ecomaine's most recent mercury data for the individual boilers and then combined boiler data. I would say, ecomaine is comparable to European facilities for mercury.

Table 3 compares CEMS data which we continuously monitor for criteria pollutants. I have presented the regulatory limits based on MDEP Ch121 and EU Annex V of Rule 2000/76/EC.

Based on these conversions, the EU limits are more stringent but there are differences between the sample period of time that the values are averaged (ie: min 30 mins & max 8 hrs), while our data vary from CO over 4-hr average and SO2/NOx over 24-hr period.

The CO for EfW is lower than our values and the difference may be in part due to combustion control and furnace design.